

# Cal/Ecotox

## Toxicity Data for Bullfrog (*Rana catesbeiana*)\*

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Chemical	Tox Exposure	Endpoint Type	Endpoint Description	Endpoint Value	Note	Reference
ALDRIN	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.1 and 0.5 lbs/acre	a	1
ARSENIC COMPOUNDS; BARIUM COMPOUNDS; CADMIUM COMPOUNDS; CHROMIUM COMPOUNDS; COPPER COMPOUNDS; SELENIUM COMPOUNDS	sediment concn. at contaminated (C) compared to reference (R) site: As, C=70.8 +/- 12.5SE, R=<1.0; Ba, C=418.7 +/- 34.0SE, R=11.8 +/- 0.6SE; Cd, C=0.57 +/- 0.05SE, R=0.03 +/- 0.00SE; Cr, C=70.8 +/- 12	TOX-EXP IND - accumulation	mean whole body metal concentrations (ppm, dry mass)	increase at contaminated (C) compared to reference (R) site: Arsenic, C=48.9 +/- 2.6SE, R=2.5 +/- 0.2SE; Barium, C=211.5 +/- 14.9SE, R=81.2 +/- 5.2SE; Cadmium, C=1.71 +/- 0.5SE, R=0.15 +/- 0.04SE; Chromium, C=17.2 +/- 0.5SE, R=1.4 +/- 0.3SE; Copper, C=31.4 +/- 1.5SE, R=17.5 +/- 6.6SE; Selenium, C=25.70 +/- 3.60SE, R=3.37 +/- 0.09SE.	b	2
ARSENIC COMPOUNDS; BARIUM COMPOUNDS; CADMIUM COMPOUNDS; CHROMIUM COMPOUNDS; COPPER COMPOUNDS; SELENIUM COMPOUNDS	mean whole body concn. at contaminated (C) compared to reference (R) site: As, C=48.9 +/- 2.6SE, R=2.5 +/- 0.2SE; Ba, C=211.5 +/- 14.9SE, R=81.2 +/- 5.2SE; Cd, C=1.71 +/- 0.5SE, R=0.15 +/- 0.04SE; Cr, 80-d tadpole residue levels (ppm dry wt) at contaminated (C) vs reference (R) sites: Chromium, C=27.25 +/- 6.22, R=8.58 +/- 0.35; Copper, C=55.12 +/- 5.05, R=17.40 +/- 1.74; Arsenic C=25.95 +/- 3.08,	TOX-REPRO - development	incidence of oral deformities at coal ash contaminated site, relative to reference site	increase	c	2
ARSENIC COMPOUNDS; CADMIUM COMPOUNDS; CHROMIUM COMPOUNDS; COPPER COMPOUNDS; SELENIUM COMPOUNDS	80-d tadpole residue levels (ppm dry wt) at contaminated (C) vs reference (R) sites: Chromium, C=27.25 +/- 6.22, R=8.58 +/- 0.35; Copper, C=55.12 +/- 5.05, R=17.40 +/- 1.74; Arsenic C=25.95 +/- 3.08,	TOX-Non-Repro-Sublethal - whole animal	resting oxygen consumption at 25C, measured in the lab	increase at contaminated, relative to reference site	d	3
ARSENIC COMPOUNDS; CADMIUM COMPOUNDS; CHROMIUM COMPOUNDS; COPPER COMPOUNDS; SELENIUM COMPOUNDS	80-d tadpole residue levels (ppm dry wt) at contaminated (C) vs reference (R) sites: Chromium, C=27.25 +/- 6.22, R=8.58 +/- 0.35; Copper, C=55.12 +/- 5.05, R=17.40 +/- 1.74; Arsenic C=25.95 +/- 3.08,	TOX-REPRO - reproductive success	% survival to 80 d posthatching	decrease at contaminated, compared to reference site	e	3
CHLORDANE	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		no effect	f	1
CHLORDANE	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.5 lb/acre	g	1
CHLORDECON (KEPONE)	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		no effect	h	1
DDT (Technical Grade Mixture)	0.1, 1.0 lbs/acre	TOX-MORT - mortality in the field		increase at 1.0 lbs/acre	i	1
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-EXP IND - accumulation	range of bioconcentration factors; calculated by dividing the whole body tissue dieldrin concentration by water dieldrin concentration	360 - 540	j	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-EXP IND - accumulation	range of bioconcentration factors; calculated by dividing the whole body tissue dieldrin concentration by water dieldrin concentration	360 - 900	k	4
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-EXP IND - accumulation	range of lipid bioconcentration factors; calculated by dividing the whole body bioconcentration values x 100 by percent lipid	36,000 - 54,000	l	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-EXP IND - accumulation	range of lipid bioconcentration factors; calculated by dividing the whole body bioconcentration values x 100 by percent lipid	36,000 - 90,000	m	4

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DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-EXP IND - accumulation	whole body dieldrin concentration (ug/g, wet wt.) at the LC50	5.1 ug/g at 8.7 ug/l	n	4
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-EXP IND - accumulation	whole body dieldrin concentration (ug/g, wet wt.)	6.0 ug/g at 11.2 ug/l	o	4
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-EXP IND - accumulation	whole body dieldrin concentration (ug/g, wet wt.)	2.0 ug/g at 4.0 ug/l	p	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-EXP IND - accumulation	whole body dieldrin concentration (ug/g, wet wt.) at the LC50	12.0 ug/g at 30.3 ug/l	q	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-EXP IND - accumulation	whole body dieldrin concentration (ug/g, wet wt.)	19.0 ug/g at 52.3 ug/l	r	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-EXP IND - accumulation	whole body dieldrin concentration (ug/g, wet wt.) at the NOAEL	0.5 ug/g at 12.3 ug/l	s	4
DIELDRIN	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.1 and 0.5 lbs/acre	t	1
DIELDRIN	0, 0.8, 2.0, 4.9, 11.0, 25.4, 64.8, 154.8 ug/l	TOX-MORT - toxicity benchmarks	LC50	34.4 ug/l (95% CL: 31.1 - 38.1 ug/l)	u	4
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-MORT - toxicity benchmarks	LC50	8.7 ug/l (95% CL: 7.8-9.7 ug/l)	v	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-MORT - toxicity benchmarks	LC50	30.3 ug/l (95% CL: 26.2 - 35.2 ug/l)	w	4
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-MORT - toxicity benchmarks	LOAEL	11.2 ug/l	x	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-MORT - toxicity benchmarks	LOAEL	52.3 ug/l	y	4
DIELDRIN	0, 0.8, 2.0, 4.9, 11.0, 25.4, 64.8, 154.8 ug/l	TOX-MORT - toxicity benchmarks	LOAEL, based on mortality but gross spinal deformities also observed	25.1 ug/l	z	4
DIELDRIN	0, 0.8, 2.0, 4.9, 11.0, 25.4, 64.8, 154.8 ug/l	TOX-MORT - toxicity benchmarks	NOAEL	11.0 ug/l	aa	4
DIELDRIN	0, 2.2, 4.0, 11.2, 46.5, 179.9 ug/l	TOX-MORT - toxicity benchmarks	NOAEL	4.0 ug/l	ab	4
DIELDRIN	0, 1.0, 3.8, 12.3, 52.3, 182.0 ug/l	TOX-MORT - toxicity benchmarks	NOAEL	12.3 ug/l	ac	4
DIURON	0, 0.5, 1.0, 3.8, 7.6, 14.5, 21.1, 29.1 mg/l	TOX-MORT - toxicity benchmarks	21 d LC50	12.7 mg/l (95% CI: 9.8 - 16.4)	ad	5
DIURON	0, 0.5, 1.0, 3.8, 7.6, 14.5, 21.1, 29.1 mg/l	TOX-Non-Repro-Sublethal - whole animal	lowest NOAEL based on body weight endpoint	7.6 mg/l	ae	5
ENDOSULFAN	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.1 and 0.5 lbs/acre	af	1
ENDRIN	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.1 and 0.5 lbs/acre	ag	1
ENDRIN	6 unspecified concentrations	TOX-MORT - toxicity benchmarks	LC50	2 ug/l (95% CL: 1-5 ug/l)	ah	6
ENDRIN	6 unspecified concentrations	TOX-REPRO - behavior	EC50; Loss of equilibrium	> 40 ug/l	ai	6
FENITROTHION	1, 2, 5, 9 mg/l (nominal)	TOX-MORT - dose-response data		increase at 9 mg/l	aj	7

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FENITROTHION	1, 2, 5, 9 mg/l (nominal)	TOX-MORT - dose-response data		increase at 9 mg/l	ak	7
FENITROTHION	0.5, 1.0, 2.0, 4.0, 8.0 mg/l (nominal)	TOX-REPRO - behavior	avoidance response assessed by daily prodding of newly hatched tadpoles	no effect	al	8
FENITROTHION	0.5, 1.0, 2.0, 4.0, 8.0 mg/l (nominal)	TOX-REPRO - behavior	avoidance response assessed by daily prodding	decrease response at 0.5 - 8 mg/l	am	8
FENITROTHION	0.5, 1.0, 2.0, 4.0, 8.0 mg/l (nominal)	TOX-REPRO - reproductive success	hatching success	no effect	an	8
FLUORANTHENE	0, 10.97, 37.97, 59.48 ug/l with simulated solar UV radiation	TOX-Non-Repro-Sublethal - behavioral effects	total distance travelled	increase @ 37.97 ug/l	ao	9
FLUORANTHENE	0, 10.97, 37.97, 59.48 ug/l with simulated solar UV radiation	TOX-Non-Repro-Sublethal - organ/system effects	incidence of structural disorganization and necrosis of the integument	increase @ 10.97 - 59.48 ug/l	ap	9
HEPTACHLOR	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.5 lbs/acre	aq	1
HEXAZINONE	100 mg/l (nominal)	TOX-MORT - dose-response data		no effect	ar	8
HEXAZINONE	100 mg/l (nominal)	TOX-REPRO - reproductive success	hatching success	no effect	as	8
LEAD NITRATE	0, 500, 625, 750, 1000 ug/l	TOX-REPRO - behavior	preference/avoidance behavior and spontaneous locomotor activity	no effect	at	10
LINDANE	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.5 lbs/acre	au	1
MERCURIC CHLORIDE	0, 1.4, 3.9, 12.0, 110.0 and 487 ug Hg/L (mean daily measured concn.)	TOX-MORT - toxicity benchmarks	96 hour LC50 (95% Confidence Interval); based on measured concentrations	63.36	av	11
MEXACARBATE	NR	TOX-MORT - toxicity benchmarks	LD50, estimated	283 - 800 mg/kg	aw	12
PARATHION	0, 1 mg/l (nominal)	TOX-MORT - dose-response data		no effect	ax	13
PERMETHRIN	NR	TOX-MORT - toxicity benchmarks	LC50	7,033 ug/l (95% CL: 4,129-8,735 ug/l)	ay	14
SULFURIC ACID	pH = 3.5, 4.0, 4.5, 5.0, 6.3	TOX-MORT - dose-response data		significant increase at pH 3.5 and 4.0	az	15
SULFURIC ACID	pH = 3.5, 4.0, 4.5, 5.0, 6.3	TOX-REPRO - reproductive success	hatching success	significant decrease at pH 3.5 and 4.0	ba	15
TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-)	0, 25, 50,100, 200, 1000 ug/kg body weight	TOX-MORT - dose-response data		no effect	bb	16
TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-)	0, 25, 50,100, 250, 500 ug/kg body weight	TOX-MORT - dose-response data		no effect	bc	16
TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-)	0, 25, 50,100, 250, 500 ug/kg body weight	TOX-Non-Repro-Sublethal - cellular/biochemical effects	histopathological changes in liver, kidney, lung, heart and gonads	no effect	bd	16
TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-)	0, 25, 50,100, 200, 1000 ug/kg body weight	TOX-REPRO - development	incidence of morphological abnormalities	no effect	be	16
TOXAPHENE (POLYCHLORINATED CAMPHENES)	0.1, 0.5 lbs/acre	TOX-MORT - mortality in the field		increase at 0.5 lbs/acre	bf	1
TOXAPHENE (POLYCHLORINATED CAMPHENES)	6 unspecified concentrations	TOX-MORT - toxicity benchmarks	LC50	99 ug/l (95% CL: 71-116 ug/l)	bg	6

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Chemical	Tox Exposure	Endpoint Type	Endpoint Description	Endpoint Value	Note	Reference
TOXAPHENE (POLYCHLORINATED CAMPHENES)	6 unspecified concentrations	TOX-REPRO - behavior	EC50; Loss of equilibrium	312 ug/l (95% CL: 225-435 ug/l)	bh	6
TRICLOPYR	0.6, 1.2, 2.4, 4.8 mg/l (nominal)	TOX-MORT - dose-response data		increase at 2.4 and 4.8 mg/l	bi	8
TRICLOPYR	0.6, 1.2, 2.4, 4.8 mg/l (nominal)	TOX-REPRO - behavior	avoidance response assessed by daily prodding of newly hatched tadpoles	no effect	bj	8
TRICLOPYR	0.6, 1.2, 2.4, 4.8 mg/l (nominal)	TOX-REPRO - behavior	avoidance response assessed by daily prodding	decrease response at 1.2 mg/l	bk	8
TRICLOPYR	0.6, 1.2, 2.4, 4.8 mg/l (nominal)	TOX-REPRO - reproductive success	hatching success	no effect	bl	8
TRIFLUOROMETHYL-4-NITROPHENOL (3-, LAMPRECIDE)	NR	TOX-MORT - toxicity benchmarks	LC50	0.95 mg/l (95% CL: 0.72 - 1.14)	bm	17
TRIFLUOROMETHYL-4-NITROPHENOL (3-, LAMPRECIDE)	NR	TOX-MORT - toxicity benchmarks	LC50	12.99 mg/l (95% CL: 6.75 - 19.22)	bn	17
TRIFLUOROMETHYL-4-NITROPHENOL (3-, LAMPRECIDE)	NR	TOX-MORT - toxicity benchmarks	LD50	11.62 mg/kg bw (95% CL: 10.71-13.14)	bo	17
TRIFLUOROMETHYL-4-NITROPHENOL (3-, LAMPRECIDE)	NR	TOX-MORT - toxicity benchmarks	LD50	15.35 mg/kg bw (95% CL: 8.72-21.98)	bp	17
TRIFLUOROMETHYL-4-NITROPHENOL (3-, LAMPRECIDE)	0.1, 0.25, 0.5, 1.0, 2.0, 3.0 mg/l	TOX-REPRO - development	growth development arrested	effect observed at 1.0 - 3.0 mg/l	bq	17

### Notes

- a Tadpole; CA; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=309-00-2; N=10 animals/dose; ponds, southern San Joaquin Valley; Tox Exp Tech=waterborne; Tox Exp Dur=single application; Tox Study Dur=1-2 d; Tox Stat Sig=NR
- b Tadpole; SC; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=ARSENIC COMPOUNDS; TOX - Chemical=BARIUM COMPOUNDS; TOX - Chemical=CADMIUM COMPOUNDS; TOX - Chemical=CHROMIUM COMPOUNDS; TOX - Chemical=COPPER COMPOUNDS; TOX - Chemical=SELENIUM COMPOUNDS; N=3 animals/site; Savannah River, Aiken; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=1 yr; Tox Stat Sig=Y
- c Tadpole; SC; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=ARSENIC COMPOUNDS; TOX - Chemical=BARIUM COMPOUNDS; TOX - Chemical=CADMIUM COMPOUNDS; TOX - Chemical=CHROMIUM COMPOUNDS; TOX - Chemical=COPPER COMPOUNDS; TOX - Chemical=SELENIUM COMPOUNDS; N=575-1048; Savannah River, Aiken; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=1 yr; Tox Stat Sig=Y
- d Tadpole; SC; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=ARSENIC COMPOUNDS; TOX - Chemical=CADMIUM COMPOUNDS; TOX - Chemical=CHROMIUM COMPOUNDS; TOX - Chemical=COPPER COMPOUNDS; TOX - Chemical=SELENIUM COMPOUNDS; N=8-11; Age=80 d; Savannah River; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=80 d; Tox Stat Sig=Y; mean body weight for reference site = 1.339 g and for contaminated site = 2.262 g
- e Tadpole; SC; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=ARSENIC COMPOUNDS; TOX - Chemical=CADMIUM COMPOUNDS; TOX - Chemical=CHROMIUM COMPOUNDS; TOX - Chemical=COPPER COMPOUNDS; TOX - Chemical=SELENIUM COMPOUNDS; N=NR; Age=80 d; Savannah River; Tox Exp Tech=site contamination; Tox Exp Dur=NR; Tox Study Dur=80 d; Tox Stat Sig=Y
- f Tadpole; CA; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=57-74-9; N=10 animals/dose; ponds, southern San Joaquin Valley; Tox Exp Tech=waterborne; Tox Exp Dur=single application; Tox Study Dur=24 hr; Tox Stat Sig=NR
- g Tadpole; CA; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=57-74-9; N=10 animals/dose; ponds, southern San Joaquin Valley; Tox Exp Tech=waterborne; Tox Exp Dur=single application; Tox Study Dur=2-6 d; Tox Stat Sig=NR
- h Tadpole; CA; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=143-50-0; N=10 animals/dose; ponds, southern San Joaquin Valley; Tox Exp Tech=waterborne; Tox Exp Dur=single application; Tox Study Dur=1 - 5 d; Tox Stat Sig=NR
- i Tadpole; CA; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=DDT (Technical Grade Mixture); N=10 animals/dose; ponds, southern San Joaquin Valley; Tox Exp Tech=waterborne; Tox Exp Dur=single application; Tox Study Dur=1 - 2 d; Tox Stat Sig=NR
- j Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=60-57-1; TOX - Dose-Response Data Format=DR Table; N=20 animals/replicate; 4 replicates/dose; Age=50 d; Tox Exp Tech=waterborne; Tox Exp Dur=4 d; Tox Study Dur=4 d; Tox Stat Sig=Y
- k Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=60-57-1; TOX - Dose-Response Data Format=DR Table; N=20 animals/replicate; 4 replicates/dose; Age=29 d; Tox Exp Tech=waterborne; Tox Exp Dur=4 d; Tox Study Dur=4 d; Tox Stat Sig=Y
- l Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=60-57-1; TOX - Dose-Response Data Format=DR Table; N=20 animals/replicate; 4 replicates/dose; Age=50 d; Tox Exp Tech=waterborne; Tox Exp Dur=4 d; Tox Study Dur=4 d; Tox Stat Sig=Y

## Toxicity Data for Bullfrog (*Rana catesbeiana*)\*

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## Toxicity Data for Bullfrog (*Rana catesbeiana*)\*

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av NR; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=7487-94-7; N=10/dose; Tox Exp Tech=waterborne; Tox Exp Dur=96 hr; Tox Study Dur=96 hr; Tox Stat Sig=NR  
aw NR; Lab; M; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=315-18-4; N=14; Tox Exp Tech=gavage; Tox Exp Dur=single; Tox Study Dur=14 d; Tox Stat Sig=NR  
ax Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=56-38-2; N=30 animals/dose; Tox Exp Tech=waterborne; Tox Exp Dur=96 hr; Tox Study Dur=18 d; Tox Stat Sig=NR  
ay Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=52645-53-1; N=10 animals/replicate; 4 replicates/dose; Tox Exp Tech=waterborne; Tox Exp Dur=96 hr; Tox Study Dur=96 hr; Tox Stat Sig=NR; tadpole body weight = 0.01g  
az Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=7664-93-9; TOX - Dose-Response Data Format=DR Table; N=120 animals/dose; Tox Exp Tech=waterborne; Tox Exp Dur=3 wk; Tox Study Dur=3 wk; Tox Stat Sig=Yes  
ba Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=7664-93-9; TOX - Dose-Response Data Format=DR Table; N=50 eggs/replicate, 6 replicates/group (n=294-312); Tox Exp Tech=waterborne; Tox Exp Dur=NR; Tox Study Dur=NR; Tox Stat Sig=Yes  
bb Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=1746-01-6; N=15 animals/group; Age=Taylor-Kollros stages I-VII; Tox Exp Tech=intraperitoneal; Tox Exp Dur=single; Tox Study Dur=50 d; Tox Stat Sig=NR  
bc Adult; Lab; B; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=1746-01-6; N=5 animals/group; Tox Exp Tech=intraperitoneal; Tox Exp Dur=single; Tox Study Dur=35 d; Tox Stat Sig=NR; body weight range; 150-250g  
bd Adult; Lab; B; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=1746-01-6; N=5 animals/group; Tox Exp Tech=intraperitoneal; Tox Exp Dur=single; Tox Study Dur=35 d; Tox Stat Sig=NR; body weight range; 150-250g  
be Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=1746-01-6; N=15 animals/group; Age=Taylor-Kollros stages I-VII; Tox Exp Tech=intraperitoneal; Tox Exp Dur=single; Tox Study Dur=50 d; Tox Stat Sig=NR  
bf Tadpole; CA; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=8001-35-2; N=10 animals/dose; ponds, southern San Joaquin Valley; Tox Exp Tech=waterborne; Tox Exp Dur=single application; Tox Study Dur=24 hr; Tox Stat Sig=NR  
bg Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=8001-35-2; N=220 animals; Tox Exp Tech=waterborne; Tox Exp Dur=96 hr; Tox Study Dur=192 hr; Tox Stat Sig=NR  
bh Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=8001-35-2; N=220 animals; Tox Exp Tech=waterborne; Tox Exp Dur=96 hr; Tox Study Dur=24 hr; Tox Stat Sig=NR  
bi Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=55335-06-3; N=10 animals/replicate; 3 replicates/dose; Age=1-2 d after hatching; Tox Exp Tech=waterborne; Tox Exp Dur=48 hr; Tox Study Dur=9 d; Tox Stat Sig=NR; triclopyr butoxylethyl ester formulation  
bj Embryo; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=55335-06-3; N=20 animals/replicate; 3 replicates/dose; Age=embryo; midneurulation stage; Tox Exp Tech=waterborne; Tox Exp Dur=48 hr; Tox Study Dur=9 d after hatching; Tox Stat Sig=NR; triclopyr butoxylethyl ester formulation  
bk Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=55335-06-3; N=10 animals/replicate; 3 replicates/dose; Age=1-2 d after hatching; Tox Exp Tech=waterborne; Tox Exp Dur=48 hr; Tox Study Dur=9 d; Tox Stat Sig=NR; triclopyr butoxylethyl ester formulation  
bl Embryo; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=55335-06-3; N=20 animals/replicate; 3 replicates/dose; Age=embryo; midneurulation stage; Tox Exp Tech=waterborne; Tox Exp Dur=48 hr; Tox Study Dur=9 d after hatching; Tox Stat Sig=NR; triclopyr butoxylethyl ester formulation  
bm Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=88-30-2; N=5; Age=Gossner stages 33-38; Tox Exp Tech=waterborne; Tox Exp Dur=24 hr; Tox Study Dur=24 hr; Tox Stat Sig=NR  
bn Adult; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=88-30-2; N=7; Tox Exp Tech=waterborne; Tox Exp Dur=24 hr; Tox Study Dur=24 hr; Tox Stat Sig=NR; Body weight range = 140 - 175 g  
bo Tadpole; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=88-30-2; N=5; Age=Gossner stages 33-38; Tox Exp Tech=intraperitoneal; Tox Exp Dur=single; Tox Study Dur=24 hr; Tox Stat Sig=NR  
bp Adult; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=88-30-2; N=7; Tox Exp Tech=intraperitoneal; Tox Exp Dur=single; Tox Study Dur=24 hr; Tox Stat Sig=NR; Body weight range = 140 - 175 g  
bq Embryo; Lab; NR; Species - California (R)=*Rana catesbeiana*; TOX - Chemical=88-30-2; N=NR; Tox Exp Tech=waterborne; Tox Exp Dur=96 hr; Tox Study Dur=96 hr; Tox Stat Sig=NR

### References

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